

## DAFTAR PUSTAKA

- Ackery, P. R., R. De Jong and R. I. Vane-Wright. 1999. The butterflies: Hedyloidea, Hesperioidea and Papilionoidea. Pages 263–300. In: Kristensen, N.P (ed.). *Lepidoptera, moths and butterflies. 1. Evolution, systematics and biogeography. Handbook of Zoology 4(35), Lepidoptera*. De Gruyter, Berlin.
- An, J-S and S-W. Choi. 2021. Butterflies as an indicator group of riparian ecosystem assessment. *Journal of Asia-Pacific Entomology*, 24: 195-200.
- Aprillia, I., I. Yustian, A. Setiawan dan D. Setiawan. 2018. Diversity of Butterflies (Lepidoptera: Rhopalocerain The Gunung Raya Wildlife Reserve, Sub District Warkuk Ranau, South Sumatra. Biovalentia: *Biological Research Journal*, 4(2): 1-7
- Azerefegne, F., C. Solbreck and A. R. Ives. 2001. Environmental Forcing and High Amplitude Fluctuations in the Population Dynamics of the Tropical Butterfly *Acraea acerata* (Lepidoptera: Nymphalidae). *Journal of Animal Ecology*, 70(6): 1032-1045.
- Beccaloni, G.W. and K. J. Gaston. 1995. Predicting the species richness of neotropical forest butterflies – Ithomiinae (Lepidoptera, Nymphalidae) as indicators. *Biological Conservation*, 71: 77–86.
- Beck, J. and I. J. Kitching. 2009. Drivers of moth species richness on tropical altitudinal gradients: a cross-regional comparison. *Global Ecology and Biogeography*, 18: 361–371.
- Beck, J. and C. H. Schulze. 2000. Diversity of fruit-feeding butterflies (Nymphalidae) along a gradient of tropical rainforest succession in Borneo with some remarks on the problem of “pseudoreplicates.” *Transactions of the Lepidopterological Society of Japan*, 51(2): 89–98.
- Beck, J., E. Mühlenberg and K. Fiedler. 1999. Mud-puddling behavior in tropical butterflies: In search of proteins or minerals?. *Oecologia*, 119(1): 140–148.
- Bhardwaj, M., V. P. Uniyal, A. K. Sanyal and A. P. Singh. 2012. Butterfly communities along an elevational gradient in the tons valley, western himalayas: implications of rapid assessment for insect conservation. *Journal of Asia-Pacific Entomology* 15, 207-217.
- Boggs, C. L. and B. Dau. 2004. Resource Specialization in Puddling Lepidoptera. *Environmental Entomology*, 33(4): 1020-1024.
- Böhm, M. 2018. *Trogonoptera brookiana*. The IUCN Red List of Threatened Species 2018: e.T91184152A91184305. <https://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T91184152A91184305.en>. Downloaded on 09 July 2020.
- Bonebrake, T. C., L. C. Ponisio, C. L. Boggs and P. R. Ehrlich. 2010. More than just indicators: A review of tropical butterfly ecology and conservation. *Biological Conservation*, 143(8): 1831–1841.

- Bonebrake, T.C and R. Sorto. 2009. Butterfly (Papilionoidea and Hesperioidea) rapid assesment of a coastal countryside in El Salvador. *Tropical Conservation Science*, 2(1): 34-51
- Boonvanno K, S. Watanasit and S. Permkam. 2000. Butterfly Diversity at Ton Nga-Chang Wildlife Sanctuary, Songkhla Province, Southern Thailand. *ScienceAsia*, 26: 105-110.
- Braby, M. F. 2004. *The Complete Field Guide to Butterflies of Australia*. CSIRO Publishing, Collingwood, Australia.
- Braby, M. F. 2005. Provisional checklist of genera of the Pieridae (Lepidoptera: Papilionoidea). *Zootaxa*, 832: 1–16.
- Bridges, C. A. 1993. *Catalogue of the Family-Group, Genus-Group and Species-Group Names of the Hesperioidea (Lepidoptera) of the World*. Published by Author, Urbana, IL.
- Bridson, D. & L. Forman (Eds). 1992. *The Herbarium Handbook*. The Board of Trustees of The Royal Botanic Gardens, Kew, London.
- Brown, K. S. 1997. Diversity, disturbance and sustainable use of Neotropical forests: insects as indicators for conservation monitoring. *Journal of Insect Conservation*, 1: 25–42.
- Buckley, R. 1991. *Environmental Impacts of Recreation in Parks and Reserves. In Perspectives in Environmental Management*. Springer, Berlin, Heidelberg.
- Cahenzli, F. and A. Erhardt. 2012. Nectar sugars enhance fitness in male *Coenonympha pamphilus* butterflies by increasing longevity or realized reproduction. *Oikos*. 121(9): 1417-1423.
- Cahenzli, F. and A. Erhardt. 2013. Nectar acids enhance reproduction in male butterflies. *Oecologia*, 171: 197-205
- Cardoso, P. 2009. Standardization and optimization of arthropod inventories—the case of Iberian spiders. *Biodivers Conserv*, 18: 3949-3962.
- Chao, A., N. J. Gotelli, T. C. Hsieh, E. L. Sander, K. H. Ma, R. K. Colwell and A. M. Ellison. 2014. Rarefaction and extrapolation with Hill numbers: a framework for sampling and estimation in species diversity studies. *Ecological Monographs*, 84(1): 45-67.
- Chao, A., Y. Kubota, D. Zeleny, C-H. Chiu, C-F. Li, B. Kusumoto, M. Yasuhara, S. Thorn, C-L. Wei, M. J. Costello and R. K. Colwell. 2020. Quantifying sample completeness and comparing diversities among assemblages. *Ecological Research*, 35: 292-314.
- Checa, M. F., D. A. Donoso, J. Rodriguez, E. Levy, A. Warren and K. Willmott. 2018. Combining sampling techniques aids monitoring of tropical butterflies. *Insect Conservation and Diversity*, 1(1): 1-11.

- Chen, I.-C., H.-J. Shiu, S. Benedick, J. D. Holloway, V. K. Chey, H. S. Barlow, J. K. Hill and C. D. Thomas. 2009. Elevation increases in moth assemblages over 42 years on a tropical mountain. *Proceedings of the National Academy of Sciences of the United States of America*, 106: 1479–1483.
- Clausen, H. D., H. B. Holbeck, J. Reddersen. 2001. Factors influencing abundance of butterflies and burnet moths in the uncultivated habitats of an organic farm in Denmark. *Biol Conserv*, 98:167–178.
- Cleary, D. F. R and M. J. Genner. 2006. Diversity Patterns of Bornean Butterfly Assemblages. *Biodiversity and Conservation*, 15: 517-538.
- Cleary, D. F. R, A. Priadjati, B. K. Suryokusumo and S. B. J. Menken. 2006. Butterfly, seedling, sapling and tree diversity and composition in a fire-affected Bornean rainforest. *Austral Ecology*, 31: 46-57.
- Cleary, D. F. R. 2004. Assessing the Use of Butterflies as Indicators of Logging in Borneo at Three Taxonomic Levels. *Journal of Economic Entomology*, 97(2): 429-435
- Coddington, J. A., I. Agnarsson, J. A. Miller, M. Kuntner and G. Hormiga. 2009. Undersampling bias: the null hypothesis for singleton species in tropical arthropod surveys. *Journal of Animal Ecology*, 78(3): 573-584.
- Collins, N. M. and M. G. Morris. 1985. *Threatened Swallowtail Butterflies of the World: The IUCN Red Data Book*. IUCN, Gland and Cambridge.
- Colwell, R. K. 2013. EstimateS: Statistical estimation of species richness and shared species from samples. Version 9. Persistent URL <purl.oclc.org/estimates>.
- Colwell, R. K., A. Chao, N. J. Gotelli, S.-Y. Lin, C. X. Mao, R. L. Chazdon and J. T. Longino. 2012. Models and estimators linking individual-based and sample-based rarefaction, extrapolation and comparison of assemblages. *Journal of Plant Ecology*. 5(1): 3-21.
- Colwell, R. K., C. X. Mao and J. Chang. 2004. Interpolating, Extrapolating, and Comparing Incidence-Based Species Accumulation Curves. *Ecology*, 85(10): 2717-2727.
- Corbet A. S. 1941. Key to The Indo-Malayan Species of Arhopala Boisduval (Lepidoptera: Lycaenidae). *Proc. R. Ent. Soc. Lond.* (B) 10.
- Corbet, A. S. and H. M. Pendlebury. 1992. *The Butterflies of the Malay Peninsula. 4th edition. Revised by J.N. Eliot*. Malayan Nature Society, Kuala Lumpur.
- Corbet, S. A. 2000. Butterfly nectaring flowers: butterfly morphology and flower form. *Entomol Exp Appl.*, 96: 289–298.
- Cormont, A., A. H. Malinowska, O. Kostenko, V. Radchuk, L. Hemerik, M. F. WallisDeVries and J. Verboom. 2011. Effect of local weather on butterfly flight behaviour, movement, and colonization: Significance for dispersal under climate change. *Biodiversity and Conservation*, 20(3): 483–503.



- Curtis, R. J., T. M. Brereton, R. L. H. Dennis, C. Carbone and N. J. B. Isaac. 2015. Butterfly abundance is determined by food availability and is mediated by species traits. *Journal of Applied Ecology*, 52(6): 1676-1684.
- Dahelmi. 2002. Life History and Ecology of Papilionid Butterflies of Province of Sumatera Barat, Indonesia. *Annual Report of Pro Natura Fund of Japan*. Vol. 12: 147-162.
- Deutsch, C. A., J. J. Tewksbury, R. B. Huey, K. S. Sheldon, C. K. Ghalambor, D. C. Haak and P. R. Martin. 2008. Impacts of climate warming on terrestrial ectotherms across latitude. *Proceedings of the National Academy of Sciences of the United States of America*, 105: 6668–6672.
- DeVries, P. J., A. C. Hamm and J. A. Fordyce. 2016. A Standardized Sampling Protocol for Fruit-Feeding Butterflies (Nymphalidae) In Larson, T.H. (ed.). *Core Standardized Methods for Rapid Biological Field Assessment*. Conservation International, Arlington, VA.
- DeVries, P. J., D. Murray and R. Lande. 1997. Species diversity in vertical, horizontal, and temporal dimensions of a fruit-feeding butterfly community in an Ecuadorian rainforest. *Biological Journal of the Linnean Society*, 62: 343-364.
- Distant, W. L. 1882-1886. *Rhopalocera Malayana : a Description of the Butterflies of the Malay Peninsula*. London, Author, Penang, Logan.
- Dumbrell, A. J. and J. K. Hill. 2005. Impacts of selective logging on canopy and ground assemblages of tropical forest butterflies: Implications for sampling. *Biological Conservation*, 125: 123-131.
- Dunn, R. R. 2004. Managing the tropical landscape: a comparison of the effects of logging and forest conversion to agriculture on ants, birds, and lepidoptera. *Forest Ecology and Management*, 191: 215–224.
- Ehrlich, P. R. and E. Davidson. 1960. Techniques for Capture-Recapture Studies of Lepidoptera Population. *Journal of the Lepidopterist Society*, 14(4): 227-229.
- Eliot, J. N. 1963. A key to the Malayan species of Arhopala. *Malayan Nat. J.* 17: 188–217.
- Eliot, J. N. 1972. Some Arhopala from Borneo, with a revision of the Arhopala cleander group. (Lepidoptera: Lycaenidae). *J. Nat. Hist.* 6: 1–15.
- Eliot, J. N. 1990. Notes on the genus Curetis Hübner (Lepidoptera, Lycaenidae). *Trans. Lepid. Soc. Japan*, 41: 201-225.
- Fermon, H., M. Waltert, R. I. Vane-Wright and M. Mühlenberg. 2005. Forest use and vertical stratification in fruit-feeding butterflies of Sulawesi, Indonesia: impacts for conservation. *Biodiversity and Conservation*, 12, 1–18.
- Ferrer-Paris, J. R., A. Sánchez-Mercado, Á. L. Vilorio and J. Donaldson. 2013. Congruence and Diversity of Butterfly-Tumbuhan inang Associations at Higher Taxonomic Levels. *PLoS ONE*, 8(5).

- Fiedler, K. 1991. Systematic, evolutionary, and ecological implications of myrmecophily within the Lycaenidae (Insecta, Lepidoptera, Papilionoidea). *Bonner Zoologische Monographien*, 31: 1-210.
- Fleishman, E., G. T. Austin and A. D. Weiss. 1998. An empirical test of Rapoport's rule: elevational gradients in montane butterfly communities. *Ecology*, 79: 2482–2493.
- Fleming W. A. 1983. *Butterflies of West Malaysia and Singapore, Second Edition Revised by Alix Mc Cartney*. Longman Malaysia Sdn. Bhd. Selangor Darul Ehsan, Malaysia
- Fleming, W. A. 1991. *Butterflies of West Malaysia and Singapore*. Second edition. Longman Malaysia, Kuala Lumpur, Malaysia.
- Freitas, A. V. L. and K. S. Brown. 2004. Phylogeny of the Nymphalidae (Lepidoptera). *Systematic Biology*, 53(3): 363–383.
- Freitas, L. A. V., C. A. Iserhard, J. P. Santos, J. Y. O. Carreira, D. B. Ribeiro, D. H. A. Melo, , ... M. Uehara-prado. 2014. Studies with butterfly bait traps: an overview. *Revista Colombiana de Entomología*, 40(2): 203–212.
- Ghalambor, C. K., R. B. Huey, P. R. Martin, J. J. Tewksbury and G. Wang. 2006. Are mountain passes higher in the tropics? Janzen's hypothesis revisited. *Integrative and Comparative Biology*, 46: 5–17.
- Gillott, C. 2005. *Entomology*, Third Edition. Springer. Netherlands.
- Giuliano, W. M., A. K. Accamando and E. J. Mcadams. 2004. Lepidoptera-habitat relationships in urban parks. *Urban Ecosystems*, 7(4): 361–370.
- Graca, M. B., J. L. P. Souza, E. Franklin, J. W. Morais. 2017. Sampling effort and common species: understorey Optimizing surveys of fruit-feeding butterflies in the Central Amazon. *Ecological Indicators*, 73: 181-188.
- Hamer, K. C., J. K. Hill, S. Benedick, N. Mustafa, V. K. Chey and M. Maryati. 2006. Diversity and ecology of carrion- and fruit-feeding butterflies in Bornean rain forest. *Journal of Tropical Ecology*, 22(1): 25–33.
- Hamer, K. C., J. K. Hill, S. Benedick, N. Mustafa, V. K. Chey and M. Maryati. 2006. Diversity and ecology of carrion- and fruit-feeding butterflies in Bornean rain forest. *Journal of Tropical Ecology*, 22(1): 25–33.
- Hamer, K. C., J. K. Hill, S. Benedick, N. Mustafa, T. N. Sherratt, M. Maryati and V. K. Chey. 2003. Ecology of butterflies in natural and selectively logged forests of northern Borneo: the importance of habitat heterogeneity. *Journal of Applied Ecology*, 40: 150-162
- Hamer, K. C., J. K. Hill, N. Mustafa, S. Benedick, T. N. Sherratt, V. K. Chey and M. Maryati. 2005. Temporal variation in abundance and diversity of butterflies in Bornean rain forest: opposite impacts of logging recorded in different seasons. *Journal of Tropical Ecology*, 21: 417-425

- Harmonis and O. R. Saud. 2017. Effects of habitat degradation and fragmentation on butterfly biodiversity in West Kotawaringin, Central Kalimantan, Indonesia. *Biodiversitas*, 18 (2): 500-506.
- Harsh, S. 2014. Butterfly Diversity of Indian Institute of Forest Management, Bhopal, Madhya Pradesh, India. *Journal of insect*, 1: 1-4.
- Harvey, D. J. 1991. Higher classification of the Nymphalidae. Appendix B. Pages 255–273 in *The development and evolution of butterfly wing patterns* (H. F. Nijhout, ed.). Smithsonian Institution Press, Washington, DC.
- Heltshe, J. and N. E. Forrester. 1983. Estimating species richness using the jackknife procedure. *Biometrics*, 39: 1-11.
- Herwina, H. 1996. *Kupu-kupu (Butterflies di Cagar Alam Lembah Harau Kabupaten 50 Kota*. Skripsi Sarjana Biologi FMIPA Universitas Andalas. Padang
- Hill, J. K., Hamer, J. Tangah and M. Dawood. 2001. Ecology of tropical butterflies in rainforest gaps. *Oecologia*, 128(2): 294–302.
- Hill, J. K., K. C. Hamer, M. M. Dawood, J. Tangah and V. K. Chey. 2003. Rainfall but not selective logging affect changes in abundance of tropical forest butterfly in Sabah, Borneo. *Journal of Tropical Ecology*, 5: 35-42.
- Hirota, T. and Y. Obara. 2000. The Influence of Air Temperature and Sunlight Intensity on Mate-Locating Behaviour of *Pieris rapae crucivora*. *Zoological Science*, 17: 1081-1087.
- Holl, K. D. 1995. Nectar Resources and Their Influence on Butterfly Communities on Reclaimed Coal Surface Mines. *Restoration Ecology*, 3(2): 76-85.
- Holloway, J. D., H. S. Barlow, H. K. Loong and C.V. Khen. 2013. Sweet or Savoury? Adult Feeding Preference of Lepidoptera Attracted to Banana and Prawn Baits in The Oriental Tropics. *THE RAFFLES BULLETIN OF ZOOLOGY*, 29: 71-90
- Horner-Devine, M.C., G. C. Daily, P. R. Ehrlich and C. L. Boggs. 2003. Countryside biogeography of tropical butterflies. *Conservation Biology*, 17: 168–177.
- Hsieh, T. C., K. H. Ma and A. Chao. 2016. iNEXT: an R package for rarefaction and extrapolation of species diversity (Hill numbers). *Methods in Ecology and Evolution*, 7: 1451-1456.
- Ide, J-Y. 2010. Weather factors affecting the male mate-locating tactics of the small copper butterfly (Lepidoptera: Lycaenidae). *Eur. J. Entomol*, 107: 369-376
- Ilhamdi, M. L., A. A. Idrus and D. Santoso. 2018. Diversity of Peces and Conservation Priority of Butterfly at Suranadi Natural Park of West Lombok, Indonesia. *Biosaintifika*, 10(1): 48-55.



- Illan, J. G., D. Gutierrez and R. J. Wilson. 2010. Fine-scale determinants of butterfly species richness and composition in a mountain region, *Journal of Biogeography*, 37: 1706-1720.
- Inayoshi, Y. 2019. A Check list of Butterflies in Indo-China, Chiefly from THAILAND, LAOS & VIETNAM. *Arhopala kurzi* (Distant, 1885). <http://yutaka.it-n.jp/lyc4/81926001.html>. Diakses 10 Juli 2020
- Indriani, Y., L. N. Ginoga, B. Masy'ud. 2010. Keanekaragaman Jenis Kupu-kupu di Beberapa Tipe Habitat di Pondok Ambung Taman Nasional Tanjung Puting Kalimantan Tengah. *Media Konservasi*, 15(1): 1-12. (Bahasa Indonesian, abstract in english)
- Jain, A., K. S. Khoon, C. W. Gan and E. L. Webb. 2018. Butterfly extirpations, discoveries and rediscoveries in Singapore over 28 years. *RAFFLES BULLETIN OF ZOOLOGY*, 66: 217-257.
- Kim, D. S., Y. B. Cho and J. C. Jeong. 2012. Effects of Tumbuhan inang, Nectar plant and Vegetation types on Butterfly Communities. *Korean J. Appl. Entomol*, 51(14): 331-342.
- Kitahara, M., M. Yumoto and T. Kobayashi. 2008. Relationship of butterfly diversity with nectar plant species richness in and around the Aokigahara primary woodland of Mount Fuji, central Japan. *Biodiversity and Conservation*, 17(11): 2713–2734.
- Koh, L. P. 2007. Impacts of land use change on South-east Asian forest butterflies: A review. *Journal of Applied Ecology*, 44(4): 703–713.
- Koh, L. P. and N. S. Sodhi. 2004. Importance of Reserves, Fragments, and Parks for Butterfly Conservation in A Tropical Urban Landscape. *Ecological Applications*, 14(6): 1694-1708.
- Koh, L. P., N. S. Sodhi and B.W. Brook. 2004. Co-extinctions of tropical butterflies and their hostplants. *Biotropica*, 36: 272–274.
- Koneri, R. and P. V. Maabuat. 2016. Diversity of Butterflies (Lepidoptera) in Manembo-Nembo Wildlife Reserve, North Sulawesi, Indonesia. *Pak. J. Biol. Sci.*, 19 (5): 202-210.
- Kral, K., J. Harmon, R. Limb and T. Hovick. 2018. Improving our science: the evolution of butterfly sampling and surveying methods over time. *Journal of Insect Conservation*, 22(1)
- Kremen, C. 1992. Assessing the indicator properties of species assemblages natural areas monitoring. *Ecological Applications*, 2: 203–217.
- Kremen, C., R. K. Colwell, T. L. Erwin, D. D. Murphy, R. F. Noss and M. A. Sanjayan. 1993. Terrestrial Arthropod Their Use in Assemblages: Conservation Planning. *Conservation Biology*, 7(4): 796–808.

- Kristensen, N. P (ed.). 2003. *Handbook of Zoology, Lepidoptera, Moths and Butterflies, Volume 2: Morphology, Physiology, and Development*. W.de Gruyter, Berlin, Germany.
- Kuussaari, M., S. Rytteri, R. K. Heikkinen, J. Heliola and P. von Bagh. 2016. Weather explains high annual variation in butterfly dispersal. *Proc. R. Soc. B*, 283: 1-8.
- Lawton, J. H., D. E. Bignell, B. Bolton, G. F. Bloemers, P. Eggleton, P. M. Hammond, M. Hodda, R. D. Holt, T. B. Larsen, N. A. Mawdsley, N. E. Stork, D. S. Srivastava and A. D. Watt. 1998. Biodiversity inventories, indicator taxa and effects of habitat modification in tropical forest. *Nature*, 391: 72–76.
- Lien, V. V. and D. Yuan. 2003. The differences of butterfly (Lepidoptera, Papilionoidea) communities in habitats with various degrees of disturbance and altitudes in tropical forests of Vietnam. *Biodiversity and Conservation*, 12, 1099–1111.
- Lopez, L. C. S, M. P. A. Fracasso, D.O. Mesquita, A. R. T. Palma and P. Riul. 2012. The relationship between percentage of singletons and sampling effort : A new approach to reduce the bias of richness estimates. *Ecological Indicators*, 14: 164-169.
- Luk, C.-L., Y. Basset, P. Kongnoo, B. C. H. Hau and T.C. Bonebrake. 2019. Inter-annual monitoring improves diversity estimation of tropical butterfly assemblages. *Biotropica*, 51: 519-528.
- Luk, C-L., U. K. Hadi, T. Ziegler and M. Waltert. 2011. Vertical and horizontal habitats of fruit-feeding butterflies (Lepidoptera) on Siberut , Mentawai Islands, Indonesia. *Ecotropica*, 17: 79–90.
- MacNally, R., E. Fleishman, J. P. Fay and D. D. Murphy. 2003. Modelling butterfly species richness using mesoscale environmental variables: model construction and validation for mountain ranges in the Great Basin of western North America. *Biological Conservation*, 110: 21–31.
- Magurran, A. E. 2004. *Measuring Biological Diversity*. Blackwell Science Ltd., Oxford, UK.
- Marchant, N. C., A. Purwanto, F. A. Harsanto, N. S. Boyd, M. E. Harrison and P. R. Houlihan. 2015. 'Random-flight' dispersal in tropical fruit-feeding butterflies? High mobility, long lifespans and no home ranges. *Ecological Entomology*, 40 (6): 696-706
- Margules, C. R. and R. L. Pressey. 2000. Systematic conservation planning, *NATURE*, 405(5): 243–253.
- Maruyama, K. and K. Otsuka. 1991. *Butterflies of Borneo Vol. 2, No. 2 HesperIIDae*. Tobishima Corporation, Tokyo Japan.
- Megens, H-J., C. H. M. van Moorsel, W. H. Piel, N. E. Pierce and R. de Jong. 2004. Tempo of speciation in a butterfly genus from the Southeast Asian tropics, inferred from



- mitochondrial and nuclear DNA sequence data. *Molecular Phylogenetics and Evolution*, 31: 1181-1196.
- Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia. 2018. Nomor P.20/MENLHK/SETJEN/KUM. 1/6/2018 Tentang Jenis Tumbuhan dan Satwa yang Dilindungi. Peraturan Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia.
- Mevi-Schutz, J. and A. Erhardt. 2005. Amino acids in nectar enhance butterfly fecundity: a long awaited link. *Am Nat*, 165:411–419.
- Mohagan, A. B. and C. G. Treadaway. 2010. Diversity and Status of Butterflies across Vegetation Types of Mt. Hamiguitan, Davao Oriental, Philippines. *Asian Journal of Biodiversity*, 1 (1): 1-24.
- Molleman, F., M. E. van Alphen, P. M. Brakefield and B. J. Zwaan. 2005. Preferences and Food Quality of Fruit-Feeding Butterflies in Kibale Forest, Uganda. *BIOTROPICA*, 37(4): 657-663.
- Muhelni, L., H. Herwina and Dahelmi. 2016. Stratification of fruit feeding butterflies at a conservation forest of oil palm plantation in West Sumatra, Indonesia. *Journal of Entomology and Zoology Studies*, 4(4): 535-540.
- Munroe, E. 1960. *The Classification of the Papilionidae (Lepidoptera)*. Memoirs of the Entomological Society of Canada.
- Munyuli M.B.T. 2013. Drivers of species richness and abundance of butterflies in coffee–banana agroforests in Uganda. *International Journal of Biodiversity Science, Ecosystem Services & Management*, 9(4): 298-310
- Myers, N., R. A. Mittermeier, C. G. Mittermeier, G. A. B. Fonseca and J. Kent. 2000. Biodiversity hotspots for conservation priorities, *NATURE*, 403(2): 853–858.
- New, T. R. 2006. Does inventory of insect species in the tropics really help in their conservation?. *Journal of Insect Conservation*, 10: 211–213.
- New, T. R., N. M. Collins. 1991. *Swallowtail Butterflies: An Action for their Conservation*. IUCN, Gland, Switzerland.
- New, T. R., R. M. Pyle, J. A. Thomas, C. D. Thomas and P. C. Hammond. 1995. Butterfly conservation management. *Ann Rev Entomol*, 40: 57–83.
- Nichols, J. D. and B. K. Williams. 2006. Monitoring for conservation. *Trends in Ecology and Evolution*, 21: 669–673.
- Nimbalkar, R. K., S. K. Chandekar and S. P. Khunte. 2011. Butterfly diversity in relation to nectar food plants from Bhor Tahsil, Pune District, Maharashtra, India. *Journal of Threatened Taxa*, 3(3): 1601–1609.

- Nogues-Bravo, D., M. B. Araujo, T. Romdal and C. Rahbek. 2008. Scale effects and human impact on the elevational species richness gradients. *Nature*, 453: 216–220.
- Ohwaki, A., S. Maeda, M. Kitahara and T. Nakano. 2017. Associations between canopy openness, butterfly resources, butterfly richness and abundance along forest trails in planted and natural forests. *European Journal of Entomology*, 114: 533-545.
- Oksanen, J., F. G. Blanchet and R. Kindt. 2013. Package “vegan”. Community ecology package, version.
- Otsuka, K. 1988. *Butterflies of Borneo*. Vol. I. Tobishima. Tokyo.
- Panjaitan, R., T. Atmowidi and J. Peggie. 2016. Effect of Temperature on Butterfly Community (Lepidoptera) at Gunung Meja Recreation Forest area. *KnE Social Science*, 2016: 19-26.
- Parmesan, C. and G. Yohe. 2003. A globally coherent fingerprint of climate change impacts across natural systems. *Nature*, 421: 37–42.
- Parmesan, C. 2006. Ecological and evolutionary responses to recent climate change. *Annual Review of Ecology Evolution and Systematics*, 37: 637–669.
- Peggie, D and Harmonis. 2014. Butterflies of Gunung Halimun-Salak National Park, Java, Indonesia, with an overview of the area importance. *Treubia*, 41:17-30.
- Peggie, D. 2011. *Precious and Protected Indonesian Butterflies*. Bidang Zoologi, Indonesia.
- Phon, C-K., L. G. Kirton, N-R. Yusoff. 2017. Monitoring butterflies using counts of puddling males: A case study of the Rajah Brooke's Birdwing (Trogonoptera brookiana albescens). *PLoS ONE*, 12(12): 1-15.
- Pickering, C. M. and W. Hill. 2007. Impacts of recreation and tourism on plant biodiversity and vegetation in protected areas in Australia. *Journal of Environmental Management*, 85: 791–800.
- Pinheiro, C. E. G. And J. V. C. Ortiz. 1992. Communities of fruit-feeding butterflies along a vegetation gradient in central Brazil. *J Biogeografi*, 19: 505-511.
- Pivnick, K. A and J. N. McNeil. 1987. Puddling in butterflies: sodium affects reproductive success in *Thymelicus lineola*. *Physiological Entomology*, 12:461–472.
- Pollard, E. & T. J. Yates. 1993. *Monitoring butterflies for ecology and conservation*. Conservation biology series. Volume 1. Chapman and Hall, London, UK.
- Posa, M. R. C. and N. S. Sodhi. 2006. Effects of anthropogenic land use on forest birds and butterflies in Subic Bay, Philippines. *Biological Conservation*, 129(2): 256–270.

- Pryke, S. R. and M. J. Samways. 2003. Quality of remnant indigenous grassland linkages for adult butterflies (Lepidoptera) in an afforested African landscape. *Biodivers Conserv*, 12:1985–2004.
- Pyle, R. M. 2002. The Butterflies of Cascadia. A Field Guide to all the Species of Washington, Oregon, and Surrounding Territories. Audobon Society, Seattle.
- Pywell, R. F., E. A. Warman, T. H. Sparks, J. N. Greatorex-Davies, K. J. Walker, W. R. Meek, C. Carvell, S. Petit and L. G. Firbank. 2004. Assessing habitat quality for butterflies on intensively managed arable farmland. *Biol Conserv*, 118:313–325.
- R Core Team. 2013. R: A language and environment for statistical computing.
- Rahayu, S. E. and A. Basukriadi. 2012. Kelimpahan dan Keanekaragaman Spesies Kupu-Kupu (Lepidoptera; Rhopalocera) Pada Berbagai Tipe Habitat di Hutan Kota Muhammad Sabki Kota Jambi. *Biospecies*, 5(2): 40-48.
- Ribeiro, D. B. and V. L. Freitas. 2010. Differences in thermal reponses in a fragmented landscape: temperature affects the sampling of diurnal, but no nocturnal fruit-feeding Lepidoptera. *Journal of Research on the Lepidoptera*, 42: 1-4.
- Ries, L., D. M. Debinski and M. L. Wieland. 2001. Conservation value of roadside prairie restoration to butterfly communities. *Conserv Biol*, 15:401–411.
- Robbins, R. K. 1982. How many butterfly species? - *News Lepid. Soc.* 1982,40-41.
- Robinson G. S., P. R. Ackery, I. J. Kitching, G. W. Beccaloni and L. M. Hernandez. 2001. *Host Plants of the Moth and Butterfly Caterpillars of the Oriental Region.* Southdene, Kuala Lumpur.
- Rosin, Z. M., L. Myczko, P. Skorcka, M. Lenda, D. Moron, T. H. Sparks, P. Tryjanowski. 2012. Butterfly responses to environmental factors in fragmented calcareous grasslands. *J Insect Conserv*, 16: 321–329.
- Roy, D. B., P. Rothery and T. Brereton. 2007. Reduced-effort schemes for monitoring butterfly populations. *J Appl Ecol*, 44: 993–1000.
- Rusman, R., T. Atmowidi and D. Peggie. 2016. Butterflies (Lepidoptera: Papilionoidea) of Mount Sago, West Sumatra: Diversity and Flower Preference. *HAYATI Journal of Biosciences*, 23: 132-137.
- Samways, M. J., M. A. McGeoch and T.R. New. 2010. *Insect Conservation - A Handbook of Approaches and Methods.* Oxford University Press Inc., New York.
- Schneider, C. and G. L. A. Fry. 2001. The influence of landscape grain size on butterfly diversity in grasslands. *J Insect Conserv*, 5:163–171.
- Schweiger, O., J. Settele, O. Kudrna, S. Klotz and I. Kuhn. 2008. Climate change can cause spatial mismatch of trophically interacting species. *Ecology*, 89: 3472–3479.
- Scriber, J. M. 1984. Larval foodplant utilization by the world Papilionidae (Lepidoptera): latitudinal gradients reappraised. - *Tokurana* (6/7), 50 pp.



- Scriven, S. A., C. M. Beale, S. Benedick and K. Hill. 2017. Barriers to dispersal of rain forest in tropical agricultural landscapes. *Biotropica*, 49(2): 206-216
- Seki Y., Y. Takanami and K. Maruyama. 1991. *Butterflies of Borneo. Vol 2: Lycaenidae*. Tobishima Corporation, Tokyo
- Shreeve, T. G., R. L. H. Dennis. 2011. Landscape scale conservation: resources, behaviour, the matrix and opportunities. *J Insect Conserv*, 15: 179–188.
- Simonson, S. E., P. A. Opler, T. J. Stohlgren, G. W. Chong. 2001. Rapid assessment of butterfly diversity in a montane landscape. *Biodivers Conserv*, 10:1369–1386.
- Slamova, I., J. Klecka and M. Konvicka. 2011. Diurnal Behavior and Habitat Preferences of *Erebia aethiops*, an Aberrant Lowland Species of a Mountain Butterfly Clade. *J Insect Behav*, 24: 230-246.
- Sodhi, N. S., T. M. Lee, L. P. Koh and B.W. Brook. 2009. A meta-analysis of the impact of anthropogenic forest disturbance on Southeast Asia's biotas. *Biotropica*, 41: 103–109.
- Sparrow, H. R., T. D. Sisk, P. R. Ehrlich and D. D. Murphy. 1994. Techniques and Guidelines for Monitoring Neotropical Butterflies. *Conservation Biology*, 8(3): 800-809.
- Spitzer, K., J. Jaros, J. Havelka and J. Leps. 1997. Effect of Small-Scale Disturbance on Butterfly Communities of An Indochinese Montane Rainforest. *Biological Conservation*, 80: 9-15
- Spitzer, K., V. Novotny, M. Tonner and J. Leps. 1993. Habitat preferences, distribution and seasonality of the butterflies (Lepidoptera, Papilionoidea) in a montane tropical rain forest, Vietnam. *Journal of Biogeography*, 20: 109-121.
- Srygley, R. B., R. Dudley, E. G. Oliveira, R. Aizpruas, N. Z. Pelaez and A. J. Riveros. 2010. El Nino and dry season rainfall influence tumbuhan inang phenology and an annual butterfly migration from Neotropical wet to dry forests. *Global Change Biology*, 16: 936-945.
- Stireman, J. O., L. A. Dyer, D. H. Janzen, M. S. Singer, J. T. Lill, R. J. Marquis, R. E. Ricklefs, G. L. Gentry, W. Hallwachs, P. D. Coley, J. A. Barone, H. F. Greeney, H. Connahs, P. Barbosa, H. C. Morais and I. R. Diniz. 2005. Climatic unpredictability and parasitism of caterpillars: implications of global warming. *Proceedings of the National Academy of Sciences of the United States of America*, 102: 17384–17387.
- Sumah, A. S. W and M. S. Apriniarti. 2019. Kupu-kupu Superfamili Papilionidae (Lepidoptera) di Kawasan CIFOR, Bogor, Indonesia. *Jurnal Biologi Tropis*, 19(2): 197-204. (Bahasa indonesia, Abstract in english)
- Sutherland, W. D (Ed.). 2006. *Ecological Census Techniques, Second Edition: A Handbook*. Cambridge University Press, Cambridge.

- Sutherland, W. J. 2000. *The conservation handbook research, management and policy*. Blackwell Science Ltd., UK.
- Sutra, N. S. M., Dahelmi and S. Salmah. 2012. Spesies Kupu-kupu (Rhopalocera) Di Tanjung Balai Karimun Kabupaten Karimun, Kepulauan Riau. *J.Bio.UA*, 1(1): 35-44.
- Thomas, C. D. 1991. Habitat use and geographic ranges of butterflies from the wet lowlands of Costa Rica. *Biological Conservation*, 55: 269–281.
- Thomas, C. D., A. Cameron, R. E. Green, M. Bakkenes, L. J. Beaumont, Y. C. Collingham, B. F. N. Erasmus, M. F. de Siqueira, A. Grainger, L. Hannah, L. Hughes, B. Huntley, A. S. van Jaarsveld, G. F. Midgley, L. Miles, M. A. Ortega-Huerta, A. T. Peterson, O. L. Phillips and S. E. Williams. 2004. Extinction risk from climate change. *Nature*, 427: 145–148.
- Thomas, J. A. 2005. Monitoring change in the abundance and distribution of insects using butterflies and other indicator groups. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 360: 339–357.
- Thomas, J. A. 2016. Butterfly communities under threat. *Science* 353(6296): 216-218.
- Thomas, J. A., D. J. Simcox and T. Hovestadt. 2011. Evidence based conservation of butterflies. *J Insect Conserv*, 15: 241–258.
- Tiple, A. D., A. M. Khurad and L. H. Dennis. 2009. Adult butterfly feeding–nectar flower associations: constraints of taxonomic affiliation, butterfly, and nectar flower morphology. *Journal of Natural History*, 43(13): 855-884.
- Trathingg, H. K. and F.O. Phillips. 2015. Importance of Native Understory for Bird and Butterfly Communities in a Riparian and Marsh Restoration Project on the Lower Colorado River, Arizona. *Ecological Restoration*, 33(4): 395-407
- Tsukada, E. and Nishiyama. 1982. *Butterflies of the South East Asian Island Vol. I. Papilionidae*. Plapac.Ltd. Tokyo.Japan.
- Tsukada, E. 1982a. *Butterflies of the South East Asian Vol. III. Satyrinae, Libytheidae*. Plapac.Ltd. Tokyo. Japan.
- Tsukada, E. 1982b. *Butterflies of the South East Asian Vol. V. Nymphalidae II*. Plapac. Ltd. Tokyo. Japan.
- Tsukada, E. 1985. *Butterflies of the South East Asian Island Part 2 Pieridae-Danaidae*. Plapac.Ltd. Tokyo. Japan.
- Uehara-Prado, M. and A. V. L. Freitas. 2009. The effect of rainforest fragmentation on species diversity and mimicry ring composition of ithomiine butterflies. *Insect Conservation and Diversity*, 2: 23–28.

- Van Swaay, C., E. Regan, M. Ling, E. Bozhinovska, M. Fernandez, O.J. Marini-Filho, B. Huertas, C-K. Phon, A. K"orösi, J. Meerman, G. Pe'er, M. Uehara-Prado, S. Sáfián, L. Sam, J. Shuey, D. Taron, R. Terblanche and L. Underhill. 2015. Guidelines for Standardised Global Butterfly Monitoring. Group on Earth Observations Biodiversity Observation Network, Leipzig, Germany. GEO BON Technical Series 1, 32pp.
- Van Swaay, C. A. M., P. Nowicki, J. Settele and A. J. van Strien. 2008. Butterfly monitoring in Europe: methods, applications, and perspectives. *Biodiversity and Conservation*, 17: 3455–3469.
- Vane-Wright, R. I. and R. de Jong. 2003. The butterflies of Sulawesi: annotated checklist for a critical island fauna. *Zool. Verh. Leiden*, 343: 3-267.
- Vu, LV and C. Q. Vu. Diversity Pattern of Butterfly Communities (Lepidoptera, Papilionidae) in Different Habitat Types in a Tropical Rain Forest of Southern Vietnam. *ISRN Zoology*, 1 : 1-8.
- Wahlberg, K., J. Rota, M. F. Braby, N. E. Pierce and C. W. Wheat. 2014. Revised systematics and higher classification of pierid butterflies (Lepidoptera: Pieridae) based on molecular data. *Zoologica Scripta*, 43: 641-650.
- WallisDeVries, M. F., E. A. Laca and M. W. Demment. 1999. The importance of scale of patchiness for selectivity in grazing herbivores. *Oecologia*, 121: 355–363
- Walpole, M.J & I. R. Sheldon. 1999. Sampling butterflies in tropical rainforest: an evaluation of a transect walk method. *Biological Conservation*, 87: 85-91
- Warren, A. D., J. R. Ogawa & A.V.Z. Brower. 2008. Phylogenetic relationships of subfamilies and circumscription of tribes in the family Hesperidae (Lepidoptera: Hesperioidea). *Cladistics*, 24: 1-35.
- Whitworth, A., R. P. Huarcaya & L. Whittaker. 2018a. Are We Using the Most Appropriate Methodologies to Assess the Sensitivity of Rainforest Biodiversity to Habitat Disturbance?. *Tropical Conservation Science Volume*, 11: 1-4.
- Whitworth, A., H. R. Pillco, M.H. Gonzalez, L. D. Braunholtz & R. MacLeod. 2018b. Food for thought. Rainforest carrion-feeding butterflies are more sensitive indicators of disturbance history than fruit feeders. *Biological Conservation*, 217: 383–390.
- Whitworth, A., J. Villacampa, A. Brown, R.P. Huarcaya, R. Downie & R. MacLeod., 2016. Past Human Disturbance Effects upon Biodiversity are Greatest in the Canopy; A Case Study on Rainforest Butterflies. *PLoS ONE*, 11(3): 1-20
- Widhiono, I. 2015. Diversity of butterflies in four different forest types in Mount Slamet Central Java, Indonesia. *Biodiversitas*, 16(2): 196-204.
- Willott, S. J., D.C. Lim, S.G. Compton & S.L. Sutton. 2000. Effects of selective logging on the butterflies of a Bornean rainforest. *Conservation Biology*, 14, 1055–1065.



